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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/738,291	HECHT ET AL.	
	Examiner	Art Unit	
	James S. Wozniak	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 May 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the office action from 2/17/2006, the applicant has submitted an amendment, filed 6/19/2006, arguing to traverse the art rejection based on the limitations regarding encoding a document with human-readable text and machine readable code for natural language translation purposes *(Amendment, 9-14)*. The applicant's arguments have been fully considered but are moot with respect to the new grounds of rejection in view of Ito *(U.S. Patent: 6,330,529)* and Lamoure *(U.S. Patent: 5,416,312)*.

Claim Objections

2. **Claims 7-10** are objected to because of the following informalities:

In claim 7, line 2, the abbreviation "OCR" should be expanded to –optical character recognition-- in order to clarify its meaning in the claim.

In claim 9, line 5, "image date" should be changed to –image data--.

Dependent claims 8 and 10 fail to overcome the above claim objections, and thus, are also objected to by virtue of their dependency.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-2, 4-5, 7, and 9-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito *(U.S. Patent: 6,330,529)* in view of Lamoure *(U.S. Patent: 5,416,312)*.

With respect to **Claim 1**, Ito discloses:

Receiving input text data indicating text of a document in a first human-readable language *(input unit for acquiring an original document, Col. 4, Lines 26-29)*;

Performing a translation operation using the input text data to produce translation data indicating a second human-readable language translation of the first human-readable language *(translating the original document into a second language, Col. 4, Lines 58-65)*;

Encoding the translation data in a machine-readable code *(encoding translation data in computer code, Col. 5, Lines 1-50; and Col. 6, Lines 40-58)*; and

Merging the input text data with the machine-readable code to produce merged image data *(embedding the original text and computer code into a document, Col. 5, Lines 1-50; and Col. 6, Lines 40-58)*.

Although Ito discloses inserting translation data into a document as a computer-readable or machine-readable code, certain humans could still read this code because it is letter-based. Lamoure, however, recites the ability to overlay image data on top of document text that

indicates translation data *(Col. 2, Lines 15-40; Col. 2, Lines 14-40; and Col. 8, Lines 16-22).* This code-indicative image scheme cannot be read by a human and shows up as grayscale in a document *(see Figs. 4 and 5).*

Ito and Lamoure are analogous art because they are from a similar field of endeavor in embedding translation data in a document. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ito with the image coding scheme taught by Lamoure in order to provide translation information not present on an original document without degrading the text data *(Lamoure, Col. 2, Lines 15-40).*

With respect to **Claim 2**, Lamoure further discloses:

Rendering the merged image data on a hardcopy document *(document text overlaid with coded image data that is readable by using an optical wand, Col. 2, Lines 29-40, Col. 5, Lines 38-59; Col. 8, Lines 16-22; and document example, Fig. 5).*

With respect to **Claim 4**, Lamoure discloses overlaying code-indicative image data on top of document text as applied to claim 1.

With respect to **Claim 5**, Ito discloses:

Receiving image data indicating a document, wherein said document, when rendered, comprises human-readable text written in a first language, said image data including language translation data encoded in machine-readable code embedded in said image data *(retrieved document comprising original language text and translation data in computer code, Col. 5, Lines 1-50; and Col. 6, Lines 40-58)*;

Receiving selection data indicating a selected foreign language for translation of said human-readable text written in the first language *(selecting a second language, Col. 3, Lines 57-67)*; and

Producing a human-readable translation of said document in said selected foreign language using the language translation data encoded in said machine- readable code *(outputting a document translation to a user based on the software code embedded in the document, Col. 4, Lines 26-44; and Col. 5, Lines 1-50; and Col. 6, Lines 40-58).*

Although Ito discloses inserting translation data into a document as a computer-readable or machine-readable code, certain humans could still read this code because it is letter-based. Lamoure, however, recites the ability to overlay image data on top of document text that indicates translation data *(Col. 2, Lines 15-40; Col. 2, Lines 14-40; and Col. 8, Lines 16-22).* This code-indicative image scheme cannot be read by a human and shows up as grayscale in a document *(see Figs. 4 and 5).* This encoded image data is further capable of generating an automatic translation of a document *(Col.8, Lines 16-22).*

Ito and Lamoure are analogous art because they are from a similar field of endeavor in embedding translation data in a document. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ito with the image coding scheme taught by Lamoure in order to provide translation information not present on an original document without degrading the text data *(Lamoure, Col. 2, Lines 15-40).*

With respect to **Claim 7**, Ito further discloses:

The step of receiving image data further comprises the step of performing OCR of the human-readable text *(original language text acquisition using a scanner, Col. 4, Lines 26-44).*

With respect to **Claim 9**, Ito discloses translating a document into second languages as applied to Claim 5, while Lamoure discloses the ability to index a word to multiple translation instances and further recites:

Identifying a portion of the machine-readable code in the image date representing the document that corresponds to the selected foreign language *(identifying encoded image data for one of a plurality of word indices, Col. 8, Lines 16-23)*; and

Decoding the identified portion of the machine-readable code *(decoding the encoded image data to perform a translation using an optical wand reader, Col. 5, Lines 38-59; and Col. 8, Lines 16-23).*

With respect to **Claim 10**, Ito further discloses:

Translating the human-readable text into the human-readable translation of said selected foreign language *(outputting a translation to a user, Col. 4, Lines 26-44)*; and

Improving the human-readable translation of said selected foreign language using the identified portion of the machine-readable code *(improving a translation by selecting the most proper words, which are identified by computer codes, Col. 6, Lines 51-67).*

With respect to **Claim 11**, Ito discloses performing a complete translation of an input document *(complete document translation, Col. 4, Lines 58-65)*, while Lamoure discloses that each word in an original text is indexed to translation data using a compressed image-based coding format *(Col. 8, Lines 16-22 and Fig. 4)*, which can decoded via an optical wand reader *(Col. 8, Lines 16-22; and 5, Lines 38-59).*

With respect to **Claim 12**, Ito discloses the translation improvement codes, as applied to claim 10, which are used to edit a default *(first)* translation.

With respect to **Claim 13**, Ito discloses part of speech and improvement language term codes that can be utilized to correct default translations that are inaccurate *(Col. 6, Lines 40-67)*, while Lamoure recites performing a word-for-word translation using an automatic translation dictionary index look-up based on an image-based encoding scheme *(Col. 8, Lines 16-22)*.

With respect to **Claim 14**, Ito discloses:

Receiving input text data indicating text of a document in a first human-readable language *(input unit for acquiring an original document, Col. 4, Lines 26-29)*;

For each one of a plurality of output foreign languages, performing a language translation operation using the input text data to produce a set of language translation data *(translating the original document into different second languages and storing translations, Col. 4, Lines 58-65; Col. 5, Lines 17-35)*;

Encoding each set of the language translation data in a machine-readable code segment *(encoding translation data in computer code, Col. 5, Lines 1-50; and Col. 6, Lines 40-58)*;

Producing primary channel image data representing the input text data in the first human-readable language, the primary channel image data presenting the input text data as human-readable text when rendered as image data in the output document *(original language text included in a translation document, Col. 5, Lines 1-50)*; and

Merging the primary channel image data with the plurality of machine- readable code segments to produce merged document image data *(embedding the original text and computer code into a document, Col. 5, Lines 1-50; and Col. 6, Lines 40-58)*.

Although Ito discloses inserting translation data into a document as a computer-readable or machine-readable code, certain humans could still read this code because it is letter-based.

Lamoure, however, recites the ability to overlay image data on top of document text that indicates translation data *(Col. 2, Lines 15-40; Col. 2, Lines 14-40; and Col. 8, Lines 16-22).* This code-indicative image scheme cannot be read by a human and shows up as grayscale in a document *(see Figs. 4 and 5).* This encoded image data is further capable of generating an automatic translation of a document when scanned by an optical wand *(Col. 5, Lines 38-59; and words assigned to a plurality of translation data instances, Col.8, Lines 16-22).*

Ito and Lamoure are analogous art because they are from a similar field of endeavor in embedding translation data in a document. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ito with the image coding scheme taught by Lamoure in order to provide translation information not present on an original document without degrading the text data *(Lamoure, Col. 2, Lines 15-40).*

With respect to **Claim 15**, Ito discloses performing a complete translation of an input document *(complete document translation, Col. 4, Lines 58-65)*, while Lamoure discloses that each word in an original text is indexed to translation data using a compressed image-based coding format *(Col. 8, Lines 16-22 and Fig. 4).*

With respect to **Claim 16**, Ito discloses the translation improvement codes as applied to claim 10, while Lamoure recites decoding encoded image data to perform translation as applied to claim 14.

With respect to **Claim 17**, Ito discloses improvement language term codes that can be utilized to correct default translations that are inaccurate *(Col. 6, Lines 51-67)*, while Lamoure recites decoding encoded image data to perform a word-for-word translation as applied to claim 14.

5. **Claims 3 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Lamoure and further in view of Zdybel et al *(U.S. Patent: 5,486,686)*.

With respect to **Claim 3**, Ito in view of Lamoure discloses the method for encoding translation data in a document in a machine-readable image format, as applied to Claim 1. Ito in view of Lamoure does not recite that the machine-readable image format is a self-clocking glyph shape code, however, Zdybel recites the use of a self-clocking glyph shape code for embedding various editing functions in a document *(Col. 8, Line 51- Col. 9, Line 12; and Col. 9, Lines 38-67)*.

Ito, Lamoure, and Zdybel are analogous art because they are from a similar field of endeavor in embedding function data in a document. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ito in view of Lamoure with the self-clocking glyph shape code taught by Zdybel in order to encode document information in a well-known format that can be implemented using common printing devices *(Zdybel, Col. 9, Lines 1-12)*.

Claim 6 contains subject matter similar to Claim 3, and thus, is rejected for the same reasons.

6. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Lamoure and further in view of Kuo *("Assist Channel Coding for Improving Optical Character Recognition," 2000)*.

With respect to **Claim 8**, Ito in view of Lamoure discloses the method for encoding translation data in a document in a machine-readable image format, as applied to Claim 1. Ito in

view of Lamoure does not recite that the machine-readable image format includes an assist channel including information that assists in the identification of OCR failures *(Chapter 1, Sections 1-1.2)*.

Ito, Lamoure, and Kuo are analogous art because they are from a similar field of endeavor in embedding function data in a document. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ito in view of Lamoure with the assist channel taught by Kuo in order to help ensure an accurate reconstruction of a document from its physical version *(Kuo, Chapter 1, Section 1.1)*.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Liu *(U.S. Patent: 5,480,306)*- discloses a system that associates words with an optical/bar code.

Dymetman et al *(U.S. Patent: 6,330,976)*- discloses automatic document actions, including mutli-langauge translation, that can be performed based on machine-readable markings.

Lakritz (*U.S. Patent: 6,623,529)*- discloses java code embedded in a document for translation.

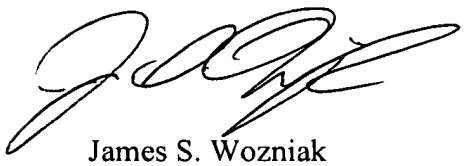
Kia et al *(U.S. Patent: 6,789,731)*- discloses text containing embedded language codes that enable automatic translation and embedded hyphenation hints to aid with paragraph formatting.

Want et al *("Bridging Physical and Virtual Worlds with Electronic Tags," 1999)*- discloses electronic tags that can be used to annotate a document with translation data, but also mentions that glyphs or barcodes could be used for similar purposes *(see Pages 371 and 374)*.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James S. Wozniak
9/25/2007